Appl. No. 10/712,644
Reply dated February 22, 2006
Reply to Office Action mailed December 5, 2005

REMARKS

The present application and its claims are directed to a hardware database and database management system. Claims 2-4 and 9 were amended so that claims 1-9 are now pending.

DOUBLE PATENTING

Applicant acknowledges the examiner's provisional double patenting rejection of the claims of the present application over co-pending and commonly owned US Patent Application Serial Nos. 10/686,225 (the "'225 Application") and 10/741,332 (the "'332 Application".)

With respect to the '332 Application, Applicant notes that the claims of the '332 Application are directed to a method while the present claims are directed to a system and therefore, the claims of the '332 Application do not in fact anticipate the claims of the present application and the provisional double patenting rejection based on the '332 Application should be withdrawn.

CLAIM OBJECTIONS AND REJECTIONS

Applicant has amended the claims to overcome the examiner's objections and rejections under 35 USC 112, second paragraph and these objections and rejections should be withdrawn.

PRIOR ART REJECTIONS

In response to the Examiner's rejection of claims 1-9 under 35 U.S.C. 103 as being unpatentable over US Patent No. 6,067,542 to Carino, Jr. ("Carino") in view of US Patent No. 5,414,809 to Hogan et al. ("Hogan"), Applicant respectfully traverses the examiner's rejection. In particular, it is well settled law that when making a rejection under 35 U.S.C. § 103, the Examiner has the burden of establishing a prima facie case of obviousness. A prima facie showing of obviousness requires (1) some suggestion or motivation to modify the reference, (2) a reasonable expectation of success, and (3) that the references teach or suggest all the claim limitations. In the present case, the examiner cannot establish a prima facie case of obviousness because the combination of Carino and Hogan does not disclose all of the claims limitations as set forth below and therefore the claims are allowable over the combination of prior art cited by the examiner.

Carino

The examiner has asserted that Carino discloses a hardware database for implementing known database protocols, but has admitted that Carino does not disclose the data flow engine.

Page 4 of 7

Appl. No. 10/712,644
Reply dated February 22, 2006
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With respect to the claimed hardware database, Carino does not disclose a hardware database since Carino discloses a software database (software application) which executes on a massively parallel hardware platform. See Carino, Abstract and Col. 3, lines 35-40 that state "In particular, the present invention is typically implemented with computer programs including database management system (DBMS) software 116." when referring to Figure 1. As is apparent from the above, Carino is a typical software-based database system that has a software application layer (the DBMS software 116). As discussed in the background of the present application, a software-based database system is less efficient than a hardware database system as set forth in the claims.

As set forth in claim 1, the hardware system has a "hardware data flow engine in communication with the microprocessor and the database and operable to receive the statements from the microprocessor, the hardware data flow engine processing in hardware the statements against the database." The claimed system replaces the software database application (the RDBMS software 116 in Carino) with the hardware data flow engine that processes in hardware the statements against the database. In Carino, the processing of the statements are performed in software. The claimed hardware database provides numerous performance advantages versus database software running on a general purpose processor such as that shown in Carino. Therefore, Carino does not disclose the features set forth in claim 1.

Hogan

The examiner has asserted that Hogan discloses the claimed data flow engine recited in claim 1. However, Hogan does not disclose "a hardware data flow engine in communication with the microprocessor and the database and operable to receive the statements from the microprocessor, the hardware data flow engine processing in hardware the statements against the database" as set forth in claim 1. The examiner has asserted that Hogan discloses a graphics engine which the examiner asserts reads on the claimed data flow engine. This is incorrect because the graphics engine in Hogan is not a data flow engine and, even if the graphics engine is a data flow engine, Hogan does not disclose the hardware data flow engine that processes in hardware the statements against the database.

Page 5 of 7

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Appl. No. 10/712,644
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Hogan discloses a system that deals with the display and manipulation of graphical objects (bar charts, Gantt, images, etc.) via a graphics engine 12 shown in Figure 1 that is a special purpose processor for rendering 2D and 3D objects from the underlying textual and numeric data which happens to be stored in a database. Hogan does not in fact disclose that the data stored in the database in Hogan is stored as a set of trees. Hogan does not disclose a data flow engine that is used to process statements against a database. Furthermore, the graphics engine of Hogan is not the claimed hardware database system as the graphics engine does not "process in hardware the statements against the database" as recited in the claims. Therefore, Hogan does not disclose the claimed hardware data flow engine.

Conclusion

Thus, the combination of Carino and Hogan does not disclose the features of claim 1 so that the examiner has not established a prima facie case of obviousness and the rejection should be withdrawn. Dependent claims 2-9 are allowable over Carino and Hogan for at least the same reasons as claim 1.

<u>Claim 3</u>

Furthermore, with respect to claim 3, neither Carino nor Hogan discloses that "the data in the database is represented in memory as a set of trees." The claimed tree structure is further described at page 4, paragraph 0035 of the published patent application (2004/0158572) that corresponds to the present application. The examiner asserts that Hogan discloses that the data in the database is represented as a set of graphs. However, Hogan discloses a system for the graphical display of data wherein the data (See Figure 16) is displayed as a graph. Hogan does not disclose that the actual data in the database is stored as a set of trees. In contrast, the claims recite data (not a graphical representation of the data as in Hogan) that is represented in memory as a set of trees which is not disclosed or suggested by Hogan. Therefore, claim 3 is allowable over Carino and Hogan for this additional reason.

<div align="center">CONCLUSION</div>

<div align="center">Page 6 of 7</div>

Appl. No. 10/712,644
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In view of the above, it is respectfully submitted that Claims 1-9 are allowable over the prior art cited by the Examiner and early allowance of these claims and the application is respectfully requested.

The Examiner is invited to call Applicant's attorney at the number below in order to speed the prosecution of this application.

The Commissioner is authorized to charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 07-1896.

Respectfully submitted,

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Dated: *March 2, 2006*   By _____
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Page 7 of 7

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